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(54) CATALYTIC BURNER

(57) Abstract:

PURPOSE: To provide a catalytic burner which enables fuel to effect safe and efficient oxidizing reaction even under a wide range of air-fuel ratio, and makes exhaust gas clean, by a method wherein an oxidizing catalyst is located on the upstream side of a premixture flow and a honeycomb type shielding plate made of a heat-resisting porous ceramic is situated on the downstream side.

CONSTITUTION: In a catalytic burner in which a catalyst 12 carries one or more types of transition-metallic oxides, such as . Ni, Co, Fe, Cr, on a carrier, a honeycomb type shielding plate 13, installed at an interval ahead of the catalyst 12, is heated by a radiant heat from the catalyst 12 and is simultaneously heated by a combustion exhaust gas flow, resulting in an increase in temperature to about 800W1,200°C. Thereafter, the catalyst 12 is reversely heated by a radiant heat from the honeycomb

type shielding plate 13, and thereby the outer periphery and the front part of the catalyst 12 also hold activating temperature uniformly. Thus, premixture gas is perfectly oxidized on the catalyst 12, and a combustion condition is stabilized.

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